

1912, and in all her Postes et Télégraphes publications. In 1913 the Swiss railways requested authority to employ this numeration, and the Swiss Federal Meteorological Commission is actually employing it.

An American plea for the 24 hours' numeration was published in this REVIEW May, 1909 (37: 175), by C. A. Mixer, who stated that he had been using it for many years in the records of his business, as well as in his weather records, and finds it a much simpler system than the customary one.

About 15 papers were presented at this first meeting of the society, and the abstracts of those subjects most interesting to our readers will be found translated in the REVIEW for December, 1917.—C. A., jr.

Lawrence Hargrave, 1850–1915.¹

By R. GREIG-SMITH, D. Sc.

(From his presidential address, Royal Society of N. S. Wales, May 3, 1916.)

Mr. Lawrence Hargrave was a well-known figure at our meetings, which he attended regularly even to the June meeting preceding his death on July 6, 1915, at the age of 65 years. The son of the late Mr. Justice Hargrave, he was born in England, but came to Australia in 1866 at the age of 16. Being of a mechanical turn of mind, he entered an engineering firm in Sydney, where he received the training that subsequently enabled him to construct the models and build the engines, etc., which his inventive genius designed. It was as an engineer and explorer that he first developed, and he took no small share in the early exploration of British New Guinea. He formed one of a party of adventurers who equipped the *Maria* for an exploring expedition. On her way north this unseaworthy old craft was wrecked in February, 1872, on the coast of North Queensland. A considerable number of her company were killed by the aborigines, but Hargrave was fortunate in escaping with his life and returned to Sydney. Joining a scientific expedition organized by Sir William Macleay, he sailed from Sydney in the *Chevert* in May, 1875. But too short a visit was made to New Guinea to satisfy Hargrave, who accordingly left the *Chevert* at Cape York in September. With Petterd and Broadbent he then joined O. C. Stone in an excursion inland from Port Moresby. Their discoveries in this direction are recorded by Stone in "A few Months in New Guinea." In May, 1876, Hargrave joined D'Albertis, as engineer of the *Neva*, in which they ascended the Fly River farther than any European had previously penetrated into the interior of Papua. The hardship and exposure of this journey induced severe attacks of fever, and in September, 1876, he concluded his travels and came back to Sydney.

He worked for some years as an assistant astronomical observer at the Sydney Observatory under the late Mr. H. C. Russell, but gave this up and devoted many years

to the study of aeronautics, and the success of the present-day aeroplanes is largely [?] dependent upon Hargrave's invention of the box kite. He first studied the motions involved in the flight of birds, and prepared models embodying the principles of the various movements. The success of the models convinced him of the possibility of mechanical flight, and although he did not prepare a complete machine, he was so satisfied with the result of his work that he gave his ideas on the subject to this society in August, 1884. The models which served to illustrate his papers are now in the Technological Museum, Sydney. The continuance of his investigations led him to the invention of the cellular or box kite, which he described in 1895.²

It is as the inventor of this kite that his name is so well known, for it has been used by practically every military nation in the world for signaling purposes and by scientists for meteorological investigations.³ It does not follow that our aeroplanes would not have been invented but for the box kite, only it is certain that his invention hastened the evolution of the aeroplane in no small degree. It is upon his invention that other men have built and become famous.

Latterly he devoted some attention to the meaning and significance of certain rock carvings and markings on the rocks around Port Jackson and the Hawkesbury River.

Mr. Hargrave was of a quiet and retiring disposition, and preferred to discuss the various subjects in which he was interested, and in which he had a deep knowledge, to a small circle of friends rather than to a large audience. His familiar face will be sadly missed by those members of our society who rarely saw his favorite seat vacant at the meetings.

Frank Plummer, 1868–1918.

By G. N. SALISBURY, Section Director.

(Weather Bureau office, Seattle, Wash., Jan. 29, 1918.)

We regret to record the death of Mr. Frank Plummer, cooperative observer, at his home in Port Townsend, Wash., on January 21, 1918. Mr. Plummer established the Weather Bureau station at Port Townsend on June 17, 1897, and maintained its record unbroken for a period of 20 years and 7 months.

He was born in Port Townsend, August 17, 1868, and was the son of A. A. Plummer, one of the first white settlers there about 1850. Frank Plummer had been prominent in various ways in the life and progress of his native town, and it is gratifying to learn that his careful and valuable meteorological record, a testimonial to his unwavering public spirit, is to be maintained by his widow, Mrs. Mae M. Plummer.

¹ See Jour. and proc., Roy. soc. N. S. Wales, Sydney, 1916, 50: 3–5.

² See also Flying machine motors and cellular kites, by L. Hargrave. Jour. & proc., Royal soc. New South Wales, Sydney, June 7, 1893, 27: 75–81, Plates I–IV.—C. A., jr.
³ See MONTHLY WEATHER REVIEW, April, 1896, 24: 114, and July, 1897, 25: 312; also note on p. 22.—C. A., jr.